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Role of Teachers in the Promotion of Environmental Education at the Secondary School Level in District Mardan

Sher Daraz¹ Hafiz Muhammad Irshadullah² Muhammad Sohail³

Abstract: *The significance of environmental education is witnessed from the literature for all ages. Pakistan, in reflection of its various education policies, is trying to ensure the implementation of environmental education at the school level. The current study investigates the role of teachers in the promotion of environmental education at the secondary school level in district Mardan. The study aimed to investigate the stated role of teachers through a Quantitative (Survey Type Research) design. All public sector teachers from the targeted district constituted the population of the study, for which a restricted tool comprising 27 items was employed to obtain data through the stratified random sampling techniques. The collected data was further analyzed through SPSS using an independent sample t-test. The statistics showed positive and satisfactory results for the study by indicating teachers' significant role in the promotion of environmental education and also highlighted that the female gender is more sensitive to environmental education as compared to the male gender. Furthermore, the current research evidently verified that the active role of teachers can make a progressive contribution to environmental education.*

Key Words: Environmental Education, Mardan, Secondary School Teachers, Survey Research, Stratified Sampling

Introduction

Education, a key to destination, has a significant contribution to the advancement push of any country (Adnan et al., 2023). Nobody can challenge the significance of education because the development of education is linked with teachers, and Plato said that teachers are good indicators of a nation's success (Ibrahim, 1997). Ali (2017) also confirmed the statement cited by adding the effective contribution of secondary schools. Adnan et al. (2023) are of the view that a positive educational environment can flourish students' potentialities to achieve more. However, Pakistan's educational system is deprived of such a distinctive role of environmental education.

The French word Environ refers to the environment in English, which means "to surround" and has an exceptional role in the overall school (Fang, Hassan & LePage, 2022). UNESCO defines environmental education as "a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and foster attitude, motivation, and commitment to make informed decisions to take responsible action" (Tiblisi, 1978). The literature claimed the importance of environmental education for all ages (UNESCO, 1978). Pakistan, being a signatory member of the UN, tried its best to safeguard the environment through numerous laws and initiatives. Pakistan recommends environmental education as a compulsory portion of early education through the National Education Policy (2009).

As discussed, the teacher is the cornerstone of the educational progression of any country without whom this machinery can't run at any cost. Educating children regarding environmental education is a modern-day necessity. People must be made aware of environmental education immediately. In this sense,

¹ M.Phil. Scholar, Department of Education, Abdul Wali Khan University, Mardan, KP, Pakistan.

² Associate Professor, Department of Education, Abdul Wali Khan University, Mardan, KP, Pakistan.

³ Lecturer, Department of Education, Abdul Wali Khan University, Mardan, KP, Pakistan.

▪ **Corresponding Author:** Sher Daraz (sherdarazmardanian1@gmail.com)

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starting environmental education in schools is ideal. Teachers also have a significant impact on children's environmental awareness and on raising the next generation to treat the environment with greater respect and responsibility.

Previous studies' explicit inconsistency shows that environmental education in Pakistan's educational settings has not received enough attention. Nobody can dispute that teachers play a crucial role in promoting environmental education because they are responsible for providing students with the knowledge and skills that might help them understand environmental issues. The current study examines the realization of environmental education amongst secondary school teachers in the context of district Mardan.

Objectives of the Study

The primary objective of the study was:

- i. To find out the teachers' role in promoting environmental education at the secondary school level in district Mardan.
- ii. To compare gender-wise awareness of environmental education at the secondary school level.

Hypotheses of the Study

H01: There is no significant role of teachers in promoting environmental education at the secondary school level in district Mardan.

H02: There is no significant gender-wise awareness of environmental education at the secondary school level.

Literature Review

Environmental Education

The origins of environmental education can be found in Emile, written by Jean-Jacques Rousseau in the 18th century, who emphasized the value of an education that is focused on the environment. A few decades later, naturalist Louis Agassiz, who was born in Switzerland, echoed Rousseau's ideas by advising students to study nature rather than books. These two significant academics contributed to the development of the practical environmental education curriculum known as "nature study," which was implemented in the late 19th and early 20th centuries (Louis, 2023).

The French word *environs*, which means to surround where living things exist, is referred to as environment. Environmental education (EE) refers to organized efforts to teach how natural environments function and, particularly, how human beings can manage behavior and ecosystems to live sustainably (UNESCO, 2023). Through the process of environmental education, people can learn about environmental issues, solve problems, and take action to protect the environment (Stapp et al., 1969). According to Fang, Hassan, and LePage (2022), the overall structure of schools is greatly influenced by environmental education. Lucas (1979) further discloses the significance of environmental education by identifying various approaches like education for the environment and education in the environment.

Environmental Education in Pakistan

Akhtar et al. (2019) and Farooqi & Fatimah (2010) are of the view that environmental issues became more pressing as the 20th century came to an end. As early as 1985, Pakistan started to realize how important environmental education was. Numerous environmental education initiatives have also been launched by non-governmental organizations (NGOs) across the country. In response to the policy, the required actions were done to incorporate environmental education concepts at the primary, secondary, and tertiary levels. Books were written on a wide range of topics, especially for environmental education classes in secondary schools. More than 70 universities now have environmental science departments that offer undergraduate, graduate, and post-graduate environmental science programs (Farooqi & Fatimah, 2010; Khanum, 2019). The National Education Policy of Pakistan, approved in 2009, mandates that environmental education be made an integral part of education. Our education system must provide quality education to our children and youth so that they can realize their individual potential and contribute to the development of society

and the nation, creating a sense of Pakistani nationhood, the concepts of tolerance, social justice, democracy, and their regional and local culture and history based on the basic ideology enunciated in the Environmental Education shall be made an integral part of education, according to the policy's (GoP, [2009](#)).

The Role of Teachers in Promoting Environmental Education

Environmental education has a tremendous role in overall school planning (Neal and Palmer, [2003](#)). Environmental education has gained increasing attention in recent years due to the need to educate people about the importance of sustainability and the growing concerns about the environment (Jensen and Schnack [1997](#)). Environmental education, according to Sengupta ([2010](#)), is a process of classifying ideas and identifying values in order to develop the skills and extra tools required to understand and respect the interrelationships among man, his culture, and his biophysical surroundings.

At all levels, educators can make a big contribution to raising awareness of environmental issues. Sincere efforts ought to be made to ensure the environment's functionality and safety. Educating children to observe and comprehend the patterns found in the natural world and their surroundings contributes to environmental stewardship. A child's environmental attitude, behavior, skill, and awareness are greatly influenced by the triangular relationship between the teacher, the child, and the parent, which helps the child grow into a successful adult (Halmatov & Ekin, [2017](#)).

Compared to other curricular activities, primary teachers are the least convinced about implementing nature-based activities. Therefore, in order to support children's learning, understanding, and development, nature educators are needed who can qualitatively analyze concepts linked to knowledge of nature and engage in nature-related activities Torquati. J., Cutler. K., Gilkerson. D., & Sarver. S. ([2013](#)). According to Cutter and Edward ([2013](#)), by embracing various approaches to environmental education, such as pedagogical play, which includes modeled, open-ended, and intentionally designed plays, teachers can help educators and young children alike acquire knowledge through early childhood experiences.

Teachers in Finland are not very concerned about their role in introducing environmental education in nature schools, according to an investigation conducted there. The most popular methods used are field trips, inquiry-based learning, physical activities, and learning through various nature-based activities, but their effects are not very strong because students usually only visit a nature school once or twice during their time in school. Interactive teaching strategies, such as role-playing and poster presentations, are beneficial for children's personal development, according to a Bulgarian secondary school study. Among the best methods for teaching about the environment are observation, analysis, documentation, and interpretation of conflict situations pertaining to the environment and their scientific resolutions Altin et al., ([2014](#)).

In a nutshell, teachers help to develop learners' skills and aptitudes necessary to understand ecological issues and take necessary actions. Teachers help their students develop an awareness of creative, dynamic, effective, and efficient environmental protection and management responsibilities. Furthermore, teachers serve as representatives of the faculty and staff and are in charge of addressing each student's needs and strengths through a range of instructional strategies, ensuring that every student has the chance to learn and achieve.

Methodology

Design of the Study

Considering the descriptive nature of the study, the quantitative survey research design was used to determine the role of teachers in promoting environmental education in secondary schools in the Mardan district. According to Gay et al. ([2009](#)), the survey method is ideal because it is time-saving, cost-effective, and easy to use.

Population of the Study

Both male and female government secondary school teachers from both strata in the Mardan district,



constituted the population of the study. According to the Annual Statistics Report 2017-2018 of the Elementary and Secondary Education Departments of Khyber Pakhtunkhwa, as cited in Adnan et al. (2023), there are 167 secondary education institutions with 2644 working teachers. The following table explains the remaining details.

Table 1

S. No	AREA	Total Schools		Total Teachers	
		Boys' Schools	Girls' Schools	Male Teachers	Female Teachers
1	Urban	11	05	273	109
2	Rural	76	75	1357	905
	SUM	167		2644	

(Source: EMIS, 2017-2018, taken from Adnan et al., (2023))

Sampling Technique and Sample Size

Considering the nature of the population, the stratified random sampling method was considered the best for selecting respondents. According to Chua (2011) and Adnan et al. (2023), stratified random sampling is an appropriate technique for selecting respondents from different groups. To determine the sample size, the researcher used the table of Krejcie and Morgan (1970). According to the table, the sample size for the gender population (2644) is 335, while for the school population (167), it is 118.

Table 2

Descriptions	Urban	Rural	Total
Schools	11	107	118
Teachers	48	287	335

(Determined through Krejcie & Morgan (1970))

Research Instrument

A self-developed, close-ended, five-point Likert Scale questionnaire (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree) comprising 27 items having .88 Cronbach's alpha value was used to collect data from secondary school teachers of the targeted district.

Data Collection Procedures

The data was collected personally by the researcher by means of the cited instrument from government secondary school teachers in the Mardan district by keeping all the ethical values in mind.

Data Analysis Techniques

The analysis of the collected data was done through SPSS using the Independent Sample t-test. In the current analysis, gender was measured through the stated test because this variable consists of two values (male and female). According to Creswell (2013), Kumar (2011), and Adnan (2018), the independent samples t-test will be used in a situation where the researcher wants to know about the relationship or comparison between two variables.

Interpretation of Data

The interpretation of the present data was made through an Independent Sample t-test using SPSS V-26 in reflection of the research objectives (1- To find out the teachers' role in promoting environmental education at the secondary school level in district Mardan. 2- To compare gender-wise awareness of environmental education at the secondary school level) and hypotheses (H01. There is no significant role of teachers in promoting environmental education at the secondary school level in district Mardan. H02. There is no significant gender-wise awareness of environmental education at the secondary school level). The table below mentions the details.

Table 3

Teachers' Role in Promoting Environmental Education (N=335)

Teacher	N	Mean	Df	Std. deviation	Std. Error means	T	P
Teachers (Male & Female)	335	1.8400	334	.37218	.02597	-1.438	.003

* Significant at $\alpha=.05$

Discussion

The cited Table 1.1 explicitly reveals that teachers (both Male and female) have a significant role in the promotion of environmental education at the targeted level. The mean value noted through the independent sample t-test was 1.8400, the t-value observed was -1.438, and the p-value was .003. This interpretation indicates that the researcher achieved a significance value of .003, that is, < 0.05 . The cited analysis explicitly showed that teacher has a significant contribution to the promotion of environmental education at the secondary school level in district Mardan. The current findings strongly rejected the hypothesis (There is no significant role of teachers in promoting environmental education at the secondary school level in district Mardan).

Table 4

Genders wise awareness (N=335)

Gender	N	Mean	Df	Std. deviation	Std. Error means	T	P
Male	206	1.8203	334	.37218	.02597	-1.435	.003
Female	129	1.8919					

* Significant at $\alpha=.05$

Discussion

Table 1.2 unambiguously reveals that gender has a significant awareness regarding environmental education at the secondary school level in district Mardan. The mean statistic for males is 1.8203, and for females, it is 1.8919, the t-value is -1.435, and the p-value is .003. This interpretation means that the researcher obtained a .003 significance value, which is < 0.05 . The stated investigation explicitly showed a clear variance in gender awareness regarding environmental education at the secondary school level in district Mardan. The current results further rejected the hypothesis (There is no significant gender-wise awareness of environmental education at the secondary school level).

Findings

1. The present study evidently confirmed that there is a significant role of teachers in the promotion of environmental education at the secondary school level in the targeted district (see Table 1.1).
2. The current statistics of 335 insights from 118 public sector secondary-level institutions confirmed significant gender-wise awareness of environmental education in the stated context. The female gender was found to be more conscious than the male gender regarding the stated problem. The statistical values drastically confirmed variance in the genders' perception of environmental education.

Discussion

In reflection of the findings, teachers have a significant role in the promotion of environmental education at the secondary school level. The study verified that teachers develop interactive and sustainable students' personalities through environmental education. The study further reflects that teachers promote environmental education through various activities on school premises, like arranging quizzes, exhibitions, and campaigns outside the school. The findings of the study are consistent with the findings of Freiji, Hussain, and Salman (2015). The results also indicate that teachers' training, study trips, and instructional techniques work as a significant push toward the promotion of environmental education. According to Dal, Ozturk, Alper, Sonmez, and Cokelmez (2015), there is a need for more in-service teacher's training workshops that focus on raising teachers' awareness of environmental education, as well as on



developing teaching approaches and skills related to environmental education. The statement also verified the similarity to the current findings.

As discussed, gender has a significant awareness of environmental education at the secondary school level. The investigator verified through statistics that the female gender is significantly sensitive to environmental education. The female gender is more attractive towards environmental education as compared to men in the stated context. The cited results are similar to the study of Altaher (2013), Arslan (2012), and Tesfai, Nagothu, Simek and Fucik (2016). These researchers believed that females have a significant concern for environmental education as compared to men. The study of Imran, Akhtar, Chen, and Ahmad (2021) also confirmed that women play an interactive role in the awareness of environmental education. The findings suggest that women's awareness regarding environmental education can be used as a tool for women's empowerment and assessment to make a greater impact on the sustainability of their communities. The stated result evidently indicates that such type of active role of women can ensure women's empowerment and their promoting role as a changing agent in globalizing the minds of nations.

Conclusion

In reflection of the perceptions discussed, it is evidently clear that teacher has a significant input in the promotion of environmental education at the secondary school level in the context. The current results concluded that teacher has a torch barrier role in the awareness of environmental education that further lead Pakistan to track sustainable development.

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